

Application No.:09/822,531
Amendment dated: May 24, 2004
Reply to Office Action of April 22, 2004

RD-26589-2

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application.

Listing of Claims:

Claims 1-32 (cancelled)

Claim 33 (previously presented) A method for producing diphenyl carbonate which comprises the steps of :

(i) contacting phenol at a temperature sufficient to keep the mixture molten with a catalyst composition consisting essentially of the following and any reaction products thereof:

(A) at least one palladium source;

(B) at least one tetrafluoroborate, hexafluorophosphate, tetraarylborate, arylsulfonate, sulfate, nitrate, carboxylate, acetate, benzoate, halide, chloride, or bromide salt with cation selected from the group consisting of guanidinium, ammonium, phosphonium, sulfonium, and alkali metal;

(C) at least one metal co-catalyst with metal selected from the group consisting of lead, cobalt, copper, titanium, manganese, cerium, and mixtures thereof; and

(D) optionally, at least one activating solvent;

(ii) heating the mixture at atmospheric pressure to a temperature in a range of between about 72°C and about 90°C;

(iii) pressurizing the mixture with carbon monoxide;

(v) maintaining the mixture under pressure of carbon monoxide for a time period;

(vi) introducing oxygen to the mixture at a concentration of greater than about 8 molar % based on carbon monoxide;

(vii) starting gas flow to the mixture at a desired concentration of oxygen and carbon monoxide;

(viii) maintaining gas flow for a time period at less than a desired ultimate temperature for the mixture; and

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(ix) heating the mixture to a desired ultimate temperature under flow of gases.

Claim 34 (currently amended) A method for producing diphenyl carbonate which comprises the steps of :

(i) contacting phenol at a temperature [sufficient to keep the mixture molten] between about 72°C and about 90°C with a catalyst composition consisting essentially of the following and any reaction products thereof:

(A) at least one palladium source;

(B) at least one tetrafluoroborate, hexafluorophosphate, tetraarylborate, arylsulfonate, sulfate, nitrate, carboxylate, acetate, benzoate, halide, chloride, or bromide salt with cation selected from the group consisting of guanidinium, ammonium, phosphonium, sulfonium, and alkali metal;

(C) at least one metal co-catalyst with metal selected from the group consisting of lead, cobalt, copper, titanium, manganese, cerium, and mixtures thereof; and

(D) optionally, at least one activating solvent;

(iii) pressurizing the mixture with carbon monoxide;

(iv) heating the mixture under pressure of carbon monoxide to a desired ultimate temperature;

(v) maintaining the mixture under pressure of carbon monoxide for a time period;

(vi) introducing oxygen to the mixture at a concentration of greater than about 8 molar % based on carbon monoxide; and

(vii) starting gas flow to the mixture at a desired concentration of oxygen and carbon monoxide.

Claim 35 (cancelled):

Claim 36 (cancelled):

Claim 37 (cancelled):

Claim 38 (currently amended): A method for producing diphenyl carbonate which

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comprises the steps of :

(i) contacting phenol at a temperature sufficient to keep the mixture molten with a catalyst composition consisting essentially of the following and any reaction products thereof:

(A) at least one palladium source;

(B) at least one tetrafluoroborate, hexafluorophosphate, tetraarylborate, arylsulfonate, sulfate, nitrate, carboxylate, acetate, benzoate, halide, chloride, or bromide salt with cation selected from the group consisting of guanidinium, ammonium, phosphonium, sulfonium, and alkali metal;

(C) at least one metal co-catalyst with metal selected from the group consisting of lead, cobalt, copper, titanium, manganese, cerium, and mixtures thereof; and

(D) optionally, at least one activating solvent;

(ii) heating the mixture at atmospheric pressure to a temperature in a range of between about 72°C and about 90°C;

(iii) pressurizing the mixture with carbon monoxide;

(vi) introducing oxygen to the mixture at a concentration of greater than about 8 molar % based on carbon monoxide with the proviso that the solvent for the reaction mixture before the introduction of oxygen consists of the aromatic hydroxy compound;

(vii) starting gas flow to the mixture at a desired concentration of oxygen and carbon monoxide; and

(ix) heating the mixture to a desired ultimate temperature under flow of gases.

Claims 39-56 (cancelled)